

DOCKETED

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Percival

Atty Docket: 1348/104

Serial No.: 08/657,777

Art Unit: 2312

Date Filed: May 31, 1996

Examiner: Bragdon, R.

For: CACHE FOR USE ON A NETWORK

\*\*\*\*\*

DECLARATION OF PAMELA CLEVELAND  
UNDER RULE 132

I, Pamela Cleveland, hereby declare and state that:

1. I am the Eastern Regional Sales Manager of EEC Systems, Inc. ("EEC"), the assignee of the above-identified patent application.
2. I have been with EEC since the end of 1991 when I joined as the Eastern Region sales representative. I was promoted to Eastern Regional Sales Manager a few years ago.
3. I am aware that in March, 1992, EEC announced in Digital Review its SuperCache product for disk caching in clusters.
4. A small number of inquiries to try out the SuperCache cluster product were received in response to that announcement. EEC shipped a few SuperCache programs with a temporary license to use the program on clusters. Every one of the cluster users to receive the SuperCache program had their computer system crash upon using the SuperCache cluster product.
5. EEC was unable to correct the cause of the computer crashes in the SuperCache for clusters product. Therefore, EEC did not offer to sell the SuperCache for clusters product to the trial users or anyone else. Thereafter, anyone who called wanting to try the SuperCache for clusters product was informed that it was not for sale.

6. All of the trials responsive to the March, 1992 announcement of the SuperCache for clusters product resulted in crashes. No sales of that product were made. It was not until September, 1993 that EEC had a SuperCache for clusters product available that it could offer for sale.

I hereby declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application in connection with which this declaration is being submitted to the Patent and Trademark Office, or any patent issued thereon.

Dated: 3/30/97

Pamela Cleveland  
Pamela Cleveland

59923

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Percival

Atty Docket: 1348/104

Serial No.: 08/657,777

Art Unit: 2312

Date Filed: May 31, 1996

Examiner: Bragdon, R.

For: CACHE FOR USE ON A NETWORK

\*\*\*\*\*

DECLARATION OF ERIC DICKMAN  
UNDER RULE 132

I, Eric Dickman, hereby declare and state that:

1. I am the Chief Executive Officer of EEC Systems, Inc. ("EEC"), the assignee of the above-identified patent application.

2. In early 1992, I had thought based on trials of our SuperCache product for clusters on our in-house Ethernet cluster of two microVAX 3200 single processor computers, that we were in a position to sell the SuperCache for clusters product.

3. EEC announced the SuperCache for clusters product in Digital Review in March, 1992.

4. In response to the product announcement, a few potential customers agreed to try the SuperCache for clusters product. They were each given a temporary license so that the product could be installed and tested. All of the potential customers who received a temporary license for the SuperCache for clusters product found that the product crashed their computer systems. EEC was unable to fix the problem in the SuperCache for clusters product and therefore, we did not offer to sell the product to the trial users or anyone else.

5. It turns out that our small Ethernet cluster was inadequate to fully test the SuperCache for clusters product. EEC purchased a VAX 6000 multiprocessor to improve our in-house

capability of testing our product. We worked to correct the problems which were causing the crashes.

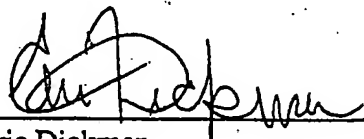
6. In the fall of 1992, Digital Equipment Corporation announced their Alpha computer. Further redesign and innovation for the SuperCache for clusters product was required to accommodate the new 64-bit machine and mixed architecture networks that would include 32-bit and 64-bit machines.

7. In February 1993, field testing of the newly developed SuperCache for clusters product began at EDS Personal Communications as described in my previous Declaration which I executed on January 30, 1996.

8. It was not until September 3, 1993, that Version 1.3, the commercial version of SuperCache for clusters, was released.

I hereby declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application in connection with which this declaration is being submitted to the Patent and Trademark Office, or any patent issued thereon.

Dated: 3/30/98

  
Eric Dickman

59924

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Percival

Atty Docket: 1348/104

Serial No.: 08/657,777

Art Unit: 2312

Date Filed: May 31, 1996

Examiner: Bragdon, R.

For: CACHE FOR USE ON A NETWORK

\*\*\*\*\*

DECLARATION OF ERIC DICKMAN

I, Eric Dickman, hereby declare and state that:

1. I am the Chief Executive Officer of EEC Systems, Inc. ("EEC"), the assignee of the above-identified patent application.
2. SuperCache was release commercially for use on stand-alone computers in 1992. The SuperCache program at that time performed caching of I/O devices in connection with a stand-alone computer.
3. SuperCache contained code for caching over a network of clustered computers, however, the commercial users could not take advantage of this code prior to the critical date, May 6, 1993. A license was required to let a user unlock the program for use. In general, EEC provided a temporary license for a limited time period, usually 30 days, to new customers who are trying out a program. Such temporary users would be provided a license string which allowed the program to operate during the limited time period. If a customer approved of the program, they could obtain a perpetual license for use of the program by making a license payment to EEC. The license was particular to the machine running the SuperCache program. Therefore, the licensees of the original SuperCache program could only use the program on the stand-alone machine for which they obtained a license.

4. When a SuperCache program was shipped to a customer, it was accompanied by a user and installation guide and a license agreement. A copy of the license agreement that EEC used in distributing its SuperCache software is attached hereto as Exhibit A. A version of the user and installation guide has already been made of record and is entitled SuperCache™ V1.2 User and Installation Guide, A TurboWare™ Product (hereinafter "SuperCache User and Installation Guide").

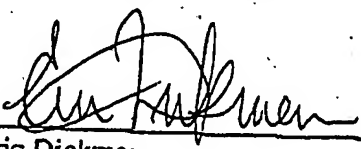
5. EEC delivered a SuperCache user and installation guide along with the license agreement to approximately 2 dozen customers prior to the critical date, May 6, 1993.

6. Significantly paragraph 5 of the license agreement reads as follows: "The CUSTOMER agrees not to provide or otherwise make available any license program or any portion thereof, including but not limited to flow charts, logic diagrams, object codes, source codes, and technical documentation, in any form, to any person other than CUSTOMERS or EEC employees without prior written approval of EEC." Pursuant to this paragraph, EEC has not given written approval for the dissemination of the SuperCache User and Installation Guide at any time prior to the critical date.

7. At all times prior to May 6, 1993, the SuperCache User and Installation Guide was distributed by EEC only in conjunction with shipments of its SuperCache software. The SuperCache User and Installation Guides were printed off a computer at EEC on a laser printer or photocopied for distribution to a customer. At all times prior to May 6, 1993, the SuperCache User and Installation Guides were not available to the general public.

I hereby declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further, that the statements were made with the knowledge that willful, false statements and the like so made are punishable by fine and imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful, false statements may jeopardize the validity of the application in connection with which this declaration is being submitted to the Patent and Trademark Office, or any patent issued thereon.

Dated: 7/16/97

  
Eric Dickman

43612

## EEC SYSTEMS INC.

## LICENSE AGREEMENT FOR SYSTEMS SOFTWARE

CUSTOMER NAME:

(hereinafter referred  
to as "CUSTOMER")

ADDRESS:

PURCHASE ORDER NUMBER:

Computer Model:

CPU Serial Number:

(hereinafter referred to as "Computer System")

EEC Systems Inc. (hereinafter referred to as "EEC") agrees to grant and the CUSTOMER agrees to accept a nontransferable and nonexclusive license to use each of the programs and such related materials and documentation, listed on the face of the above purchase order (hereinafter singularly and or collectively referred to as "Licensed Program"), on the following terms and conditions:

## 1. TERM

Each license shall be effective from the date hereof and shall remain in force until CUSTOMER discontinues the use of such Licensed Program or the License is otherwise terminated as provided herein.

## 2. LICENSE

CUSTOMER shall have the right to use each Licensed Program or any portion thereof on a single Computer system, and for no other purpose. Separate Licenses are required for use of Licensed Program on each additional single Computer System.

## 3. TITLE

Title to and ownership of the Licensed Program shall at all times remain with EEC Systems Inc.

## 4. RIGHT TO USE

4.1 CUSTOMER may edit, format, or otherwise modify the Licensed Program provided, however, that any portion thereof included in a modified work shall remain subject to all terms and conditions of the License and shall remain property of EEC Systems, Incorporated.

4.2 The CUSTOMER may copy each Licensed Program for the purposes of:

4.2.1 Using the Licensed Program on a single Computer System;

4.2.2 Modifying each Licensed Program as provided above;

4.2.3 To replace a worn or deteriorated copy;

4.2.4 For archive or emergency restart purposes.

4.3 The CUSTOMER agrees to reproduce the EEC Systems copyright notice on all copies of each Licensed Program, or any modifications thereof in any form.

4.4 CUSTOMER's right to copy and or modify any Licensed Program shall be limited to the conditions set forth in Paragraph 4.

## 5. SECURITY

The CUSTOMER agrees not to provide or otherwise make available any Licensed Program or any portion thereof, including but not limited to flowcharts, logic diagrams, object codes, source codes, and technical documentation, in any form, to any person other than CUSTOMER or EEC employees without prior written approval of EEC.

## 6. SUPPORT SERVICES

6.1 If specified in the current EEC Software Product Description applicable to the Licensed Program, EEC will, for no additional charge, provide support services to remedy Licensed Program errors, to the extent and under the



conditions described in the applicable Product Description. However, EEC does not guarantee service results or represent or warrant that all errors will be corrected.

- 6.2 EEC reserves the right to assess charges at its then current rates for support services for a Licensed Program which has been altered or modified or is not a current release.

## 7. WARRANTY

- 7.1 Each Licensed Program shall conform to the then current published EEC Software Product Description applicable to the Licensed Program when it is shipped to the customer.
- 7.2 EXCEPT FOR THE EXPRESS WARRANTY STATED ABOVE, EEC DISCLAIMS ALL WARRANTIES WITH REGARD TO THE SOFTWARE PROGRAM LICENSED HEREUNDER, INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND FITNESS: and any stated express warranties are in lieu of all obligations or liability on the part of EEC for damages, including but not limited to special, indirect, or consequential damages arising out of or in connection with the use or performance of the Software Program licensed hereunder.



EEC SYSTEMS INC.  
Millbrook Park  
327/E Boston Post Rd  
Sudbury, MA 01776  
(508)-443-5106

## 8. TERMINATION

In the event CUSTOMER neglects or fails to perform or observe any of its obligations under this Agreement, or if any assignment shall be made of its business for the benefit of creditors, or if a receiver, trustee, in bankruptcy, or a similar officer shall be appointed to take charge of all or part of its property, or if it is adjudged a bankrupt, this License Agreement and all Licenses granted hereunder as to CUSTOMER shall immediately be returned to EEC.

## 9. CERTIFICATION

Within two (2) weeks after termination of any License granted hereunder, in accordance with the terms hereof, the CUSTOMER shall certify in writing to EEC that through its best efforts and to the best of its knowledge the original and all copies and modifications of the Licensed Program, received from EEC or made in connection with the License have been destroyed except as may be authorized in writing by EEC.

## 10. ASSIGNMENT

This License Agreement, the Licenses granted hereunder and the Licensed Program may not be assigned, sublicensed, or otherwise transferred by the CUSTOMER without the prior written consent from EEC. No right to reprint or copy, in whole or in part, the Licensed Program is granted hereby except as otherwise provided herein.

Executed this .....

EEC SYSTEMS INC.

BY: .....

Name: .....

Duly Authorized

Title: .....

day of .....19...

CUSTOMER

BY: .....

Name: .....

Duly Authorized

Title: .....

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): J. Ian Percival

Atty Docket: 1348/102

Serial No.: 08/238,815

Art Unit: 2301

Date Filed: May 6, 1994

Examiner: R. Rudolph

For: CACHE FOR USE ON A NETWORK

\*\*\*\*\*

DECLARATION OF ERIC DICKMAN

I, Eric Dickman, hereby declare and state that:

1. I am the Chief Executive Officer of EEC Systems, Inc. ("EEC"), the assignee of the above-identified patent application.

2. EEC is a developer and licensor of computer software. The software produced by EEC generally relates to performance acceleration of computers sold by Digital Equipment Corporation ("DEC").

3. Turbocache was a product marketed by EEC for use on VAX computers sold by DEC. The marketing literature of EEC, including the installation guides, for Turbocache indicated that Turbocache could be used on openVMS networked computers, in particular VAXclusters. However, Turbocache failed to properly operate in a cluster environment and thus could not be used by

customers on a cluster.

4. Anyone attempting to use Turbocache on a plurality of computers connected in a network was likely to corrupt their data. Whenever a machine was booted in or out of a VAXcluster, data was corrupted by Turbocache. EEC was unable to repair the Turbocache product.

5. Turbocache was written by Joseph Worrall and marketed by EEC. Worrall never made the source code available to EEC. The source code for Turbocache was never made public. Worrall has kept the source code confidential.

6. EEC was unable to repair Turbocache for use on networked computers. Indeed, without the source code, EEC was in no position to repair Turbocache.

7. Some information about the Turbocache program may be found in the publications that have been submitted along with Applicant's Information Disclosure Statements. One aspect of Turbocache disclosed by the publications is that it had the ability to set one cache bucket size for an entire file or an entire disk being cached.

8. EEC wrote Supercache to replace the Turbocache program which it could no longer support without Mr. Worrall's cooperation. Supercache was released commercially for use on

stand-alone computers in May, 1992. The Supercache program performed caching of I/O devices in connection with a stand-alone computer.

9. Supercache contained code for caching over a network of clustered computers, however, the commercial users could not take advantage of this code prior to the critical date, May 6, 1993. A license was required to let a user unlock the program for use. In general, EEC provided a temporary license for a limited time period, usually 30 days, to new customers who were trying out a program. Such temporary users would be provided a license string which allowed the program to operate during the limited time period. If a customer approved of the program, they could obtain a perpetual license for use of the program by making a license payment to EEC. The license was particular to the machine running the Supercache program. Therefore, the licensees of the original Supercache program could only use the program on the stand-alone machine for which they obtained a license.

10. Following the initial release of Supercache for use in stand-alone computers, development continued on the Supercache program for use in a network of computers. EEC had an in-house system of clustered computers on which it tested and ran the program.

11. A second test installation was located at EDS Personal Communications ("EDS") of Waltham, Massachusetts. EDS was a Turbocache customer. EDS had two clusters, one with two VAX 6620 computers and a VAX 6430 computer and one with two VAX 4500 computers. EEC warned EDS not to use Turbocache on the clusters in 1992. When Supercache was written, Chris Yetman, the principal consulting engineer at EDS, volunteered to test Supercache on the EDS cluster with the two 6620s and the 6430 after hours.

12. EEC shipped Supercache version 1.2-08 to EDS on about February 8, 1993. (See attached Exhibit A) EDS was given temporary licenses so that it could field test Supercache for EEC in clusters on its five VAX computers. EDS was the only location outside of EEC prior to the critical date, May 6, 1993, that had a license to run Supercache on a cluster of computers.

13. Prior to the critical date, EDS only used its networked configuration of the Supercache program during off hours. EDS's business was the production of cellular telephone bills. The Supercache program was not used in production on networked computers at EDS until well after the critical date.

14. EDS did not have access to the Supercache source code.

15. EEC personally monitored the performance of the

Supercache program on the EDS clusters. Whenever the system crashed or an error occurred, Mr. Yetman at EDS did a system dump of all system memory onto tape. EEC personnel picked up the tapes and brought them back to EEC for analysis to determine the cause of the error. These crash dumps resulted in a number of the program fixes reported in the Supercache Release Notes.

16. EDS was billed for its annual maintenance fee by EEC on June 16, 1993. (Attached as Exhibit B) Supercache Version 1.2-16 was shipped to EDS on about August 19, 1993. (Attached as Exhibit C)

17. It was not until Supercache Version 1.3 that EEC was sufficiently satisfied with the operation of the Supercache program on VAXclusters. Version 1.3 was the first commercially released Supercache program for clusters. This was the first program for which EEC issued perpetual licenses. Supercache Version 1.3 was released in September 1993. For existing cluster customers, Supercache Version 1.3 was made available as an upgrade to the Turbocache product. Payment of the annual maintenance fees was required to receive Supercache Version 1.3 but there were no other upgrade charges to existing customers of the faulty Turbocache product.

18. The Release Notes indicate a fix dated November 10,

1992 relating to Quorum disks. This fix is indicated in the patent application at FIG. 4A, block 238. This block prevents caching of Quorum disks in a cluster. Each cluster has a Quorum disk and the Supercache program did not work when the Quorum disk was cached.

19. On November 20, 1992, a fix was made to the memory allocation routine. The problem encountered was running out of VMS memory for the cluster. The cache was taking up too much memory. The problem was fixed by providing a monitor of free memory in the system and releasing memory from cache when available memory got low. This fix is indicated in FIG. 1 at block 32 which indicates the system memory check.

20. Version 1.2-03 of Supercache was the first one for use on a DEC Alpha AXP computer. The Alpha AXP computer at this time was not available for use on a cluster.

21. On January 10, 1993, the memory allocation routine was improved by providing the variables REDUCE and MEMBUFF. REDUCE controls how fast memory is given back to the OpenVMS system. MEMBUFF sets a desired goal for triggering memory release. These variables are used in the processes shown in FIG. 2D at blocks 142 and 144.

22. In the fix shown for January 26, 1993, it was learned

at the EEC test site that the full license for operating Supercache on a VMS cluster wasn't working properly. Until this test, EEC and EDS were testing Supercache on clusters using the temporary license facility. A full license for the VMS cluster was not given outside EEC until the summer of 1993 when EDS was provided with a full license. The full license was fixed in Version 1.2-07. Another change made in Version 1.2-07 was that when disks were added to the system, the default condition was cache status "off."

23. Version 1.2-08 was made available for use with the AXP OpenVMS V-1.5. OpenVMS 1.5 supported Alpha AXP computers and was available for use on DEC clusters which included both VAX and Alpha computers. Thus beginning with Version 1.2-08, work began on making Supercache operable on mixed architecture clusters including VAX machines and Alpha machines all in the same cluster.

24. The version of Supercache completed by April 1, 1993, included fixes so that remote SCSI disks could be cached.

25. On July 19, 1993, an error was uncovered with regard to allocation class. This was fixed by adding a test of the validity of the allocation class. This appears in the patent application at FIG. 3A, block 172.



26. On August 13, 1993, a problem was detected with regard to the privilege code. A privilege code check was added to the code to correct for the problem. This appears in the patent application at FIG. 3A, block 152.

27. On September 3, 1993, Version 1.3, the commercial version of Supercache for clusters, was released.

28. In June of 1993, Supercache for use on OpenVMS clusters was announced as being available. Although the program was still being tested for use on clusters and was very close to satisfactory completion, the advertisement (attached hereto as Ex. D) helped get the word out that the program was becoming available.

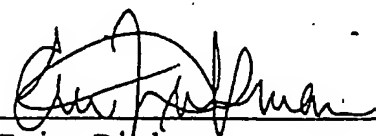
29. On November 23, 1993, EEC and DEC announced a joint marketing agreement for the Supercache software product. (See attached Ex. E) By this time, the commercial release of the cluster product for Supercache had been made.

I hereby declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under Section 1001 of Title 18 of the

United States Code and that such willful false statements may jeopardize the validity of the application in connection with which this declaration is being submitted to the Patent and Trademark Office, or any patent issued thereon.

Dated:

1/30/96

  
Eric Dickman

8560

# EEC SYSTEMS, INC.

Millbrook Park  
327 Boston Post Rd.  
SUDBURY, MA 01776

(508) 443-5106

EXHIBIT A

Nº 14278

## PACKING SLIP

Mr. Chris Yetman  
EDS PCC  
1601 Trapelo Road  
Waltham MA 02154

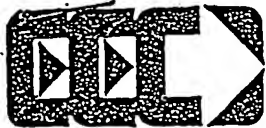
SAME AS SOLD TO UNLESS OTHERWISE INDICATED HERE

DATE 2/8/93		YOUR ORDER NO.		SHIPPED VIA UPS		CTNS. - PKGS. 1		TOT. WT. 1	
QUANTITY ORDERED	QUANTITY BACK-ORD'D.	QUANTITY SHIPPED	DESCRIPTION						
1		1	SuperCache 1600bpi V1.2-08						

- ☐ ORDER COMPLETE  
☐ BALANCE TO FOLLOW

PLEASE NOTIFY US IMMEDIATELY IF ERROR IS FOUND IN SHIPMENT.

PACKED BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_



EEC SYSTEMS INC.

Millbrook Park  
327/E Boston Post Rd.  
Sudbury, MA 01776  
(508) 443-5106  
FAX (508) 443-9997

Exhibit ①

INVOICE NO.

307913

INVOICE DATE

16-JUN-1993

Remit To:

EEC SYSTEMS, INC.  
327 Boston Post Road  
Suite E  
Sudbury, MA 01776

Sold To:

EDS PCC  
1601 Trapelo Road  
Waltham, MA 02154

Ship To:

ATTN: Mr. Chris Yetman

02029

Our Order#	Your Order#	Salesman	Terms	Shipped Via
renewal		MV	contract	n/a

Quantity	Description	Unit Price	Total
1	TurboCache VMS annual maintenance		
	VAX 6430		\$ 1,834.00
	VAX 6420		1,440.00
	VAX 8550		1,046.00
2 -	VAX 6620	\$ 2,059.00	4,118.00
2 -	VAX 4500	1,238.00	2,476.00
To Run: 8/11/93 to 8/10/94			
Your Contract Will Expire Unless Paid By 8/11/93			
Sales Tax Media, Handling			
TOTAL:			\$ 10,914.00

FEC SYSTEMS, INC.  
Millbrook Park  
327 Boston Post Rd.  
SUDBURY, MA 01776  
(508) 443-5106

Exhibit C

Nº 14829

# PACKING SLIP

Mr. Chris Yetman  
EDS PCC  
1601 Trapelo Road  
Waltham MA 02154

SAME AS SOLD TO UNLESS OTHERWISE INDICATED HERE

DATE 8/19/93	YOUR ORDER NO.	SHIPPED VIA UPS	CTNS. - PKGS. 1	TOT. WT. 1
-----------------	----------------	--------------------	--------------------	---------------

QUANTITY ORDERED	QUANTITY BACK-ORD'D.	QUANTITY SHIPPED	DESCRIPTION
1		1	SuperCache 1600bp1 V1.2-16

- ☐ ORDER COMPLETE  
☐ BALANCE TO FOLLOW

PLEASE NOTIFY US IMMEDIATELY IF ERROR IS FOUND IN SHIPMENT.

PACKED BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_

# For SUPER PERFORMANCE, Exhibit D SUPERCHARGE Your VAX or Alpha AXP Systems with SuperCache from EEC Systems, Inc.

## How do you measure computer system performance?

Not by CPU speed alone. In the last five years, CPU performance has increased phenomenally, while performance improvements in disk I/O have lagged behind. Depending on how often your application reads or writes data, you could end up with a serious I/O bottleneck.

**"Now that SuperCache is available for Alpha AXP systems, customers will be able to take complete advantage of the impressive speed and expanded memory capacity of this advanced architecture."**

ERIC DICKMAN, CEO, EEC SYSTEMS

Now there's an easy way to realize the full potential of your OpenVMS VAX, OpenVMS Cluster, or Alpha AXP system. SuperCache software from EEC Systems, Inc., feeds data to your application at memory speed rather than disk speed — enabling you to cut application

processing time dramatically or to add 50 percent more active users to your current application without any decrease in performance.

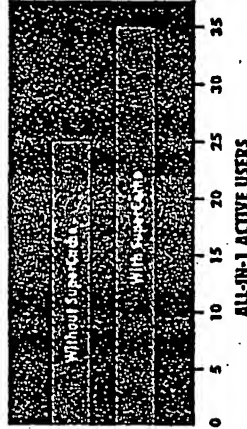
"Using SuperCache, customers can expect to increase performance 2 to 15 times," says Eric Dickman, EEC's chief executive officer. "In addition to that, SuperCache works transparently, so you don't have to change your application to make use of it. And now that SuperCache is available for Alpha AXP systems, customers will be able to take complete advantage of the impressive speed and expanded memory capacity of this advanced architecture."

SuperCache works by using main memory — not the disk — to store the most recently used data in three dynamically sized caches. This means that frequently accessed data is read directly from memory. Because the interconnects between memory and the CPU are very fast, your I/O is significantly accelerated, and the overall efficiency of your VAX, OpenVMS Cluster, or Alpha AXP system improves significantly.

For complete protection of your data, SuperCache writes to the disk at the same time that it writes to memory. In addition, SuperCache software is multithreaded to support full parallel processing on multiprocessor systems.

"The end result is efficiency as well as speed," explains Dickman. "Because customers can run existing applications faster, they're able to put more applications or more users on the systems they've got. Resources — both capital and human — are used with maximum cost effectiveness."

**EEC and Digital Deliver Customer Satisfaction**  
A division of EDS, EDS Personal Communications of Waltham, Massachusetts, provides services such as billing and fraud protection to cellular communication companies. In doing so, the company uses almost 500 VAX Units of Performance (VUPs) and more than 400 gigabytes of on-line storage, spread across 30 standalone and clustered VAX systems. In addition, it recently acquired its first DEC 4000 AXP system.



SuperCache enables you to increase the number of users you can support — without buying a new system.

"We're excited about the speed, additional memory capacity, and memory management features of Alpha AXP," says Chris Yetman, principal consulting engineer at EDS. "As a cellular communications service company, we depend on quick turnaround for a competitive edge. With SuperCache running on OpenVMS today, we can double the throughput of many jobs — without having to reengineer our applications."

EDS Personal Communications also makes use of SuperCache monitoring features that help determine which disks will get the maximum benefit from caching. And, with SuperCache, you're able to cache specific disks or your entire I/O subsystem.

"When we first installed SuperCache, improvements in performance were so dramatic that when customers called to get the status of their jobs, we were able to tell them that they had already been processed," Yetman continues. "When we start moving over to Alpha AXP, we expect to see even bigger performance improvements."

Available for OpenVMS VAX systems, OpenVMS Clusters, and Alpha AXP systems, SuperCache software can be purchased directly from EEC Systems. In addition to supplying this software-only product, EEC can supply TurboWare, a package that bundles SuperCache software with Alpha AXP or VAX memory — at prices lower than each product sold separately. For information and a FREE SuperCache demo, call EEC Systems at 508-443-5106. ■

PUTTING IMAGINATION TO WORK

digital



EEC SYSTEMS INC.

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Editorial Contact:

PRESS RELEASE

Eric Dickman, CEO  
EEC Systems, Inc.  
Phone (508) 443-5106

## DIGITAL AND EEC SYSTEMS ANNOUNCE I/O SOFTWARE FOR ALPHA AXP AND VAX SYSTEM

November 23, 1993, Sudbury, MA -- EEC Systems, Inc. and Digital Equipment Corporation today announced a joint marketing agreement for EEC's SuperCache and SuperDisk AVX software products. The software runs on Digital's Alpha AXP and VAX systems under the OpenVMS operating system. The products enhance the I/O performance of the systems, especially in cluster configurations.

"Digital has the most powerful CPUs in the industry," said Eric Dickman, CEO of EEC Systems. "Coupled with our I/O acceleration software, customers can realize unbeatable performance."

SuperCache software provides host based caching in OpenVMS Alpha AXP and VMScluster environments, dynamically adjusting to changing workloads. The software improves the performance of all OpenVMS applications transparently to the end user.

SuperDisk AVX software creates logical disk units that reside in the host system's main memory. The units are protected against both power failure and system failure. They back data both synchronously and in write-deferred mode to magnetic disk. In the event of a system failure, the software automatically restores the data to its original state for both maximum speed and data integrity. SuperDisk AVX units are also VMScluster accessible.

Digital Equipment Corporation is the world's leader in open client/server solutions from personal computing to integrated worldwide information systems. Digital's Alpha AXP platforms, storage, software and services, together with industry-focused solutions from business partners, help organizations compete and win in today's global marketplace.

Note to editors:

Digital, DEC, the Digital logo, Alpha AXP, and VAX are trademarks of Digital Equipment Corporation.

SuperCache and SuperDisk AVX are trademarks of EEC Systems, Inc.